

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Withdrawn): An optical scanning device, comprising:

a plurality of scanning optical systems configured to scan different scanning surfaces,  
each of the scanning optical systems comprising:

a light source configured to emit a light flux;

a deflector configured to scan the light flux emitted from the light source, wherein the  
deflector is commonly used in the plurality of scanning optical systems;

a scanning lens configured to condense the scanned light flux to the scanning surface;

an optical path inflection mirror configured to inflect the scanned light flux; and

an imaging lens configured to lead the light flux emitted from the light source to the  
deflector,

wherein the plurality of scanning optical systems are provided at both sides of the  
deflector with the deflector being therebetween such that one each of the scanning optical  
systems at both sides of the deflector comprise a set of the optical scanning system and  
respective light fluxes scanned by the deflector, the set of the optical scanning system being  
approximately parallel in a main scanning direction, and wherein an expression,

$$|N - M| = 2k + 1$$

is satisfied when the number of optical path inflection mirrors provided in each of the set of  
scanning optical systems is represented by "N" where  $N > 2$ , "M" where  $M > 1$ , and where "k"  
is an integer equal to zero or larger.

Claim 2 (Withdrawn): The optical scanning device according to claim 1, wherein one  
or more of the plurality of scanning optical systems are provided in a sub-scanning direction

at both sides of the deflector in addition to the scanning optical systems provided at both sides of the deflector with the deflector being therebetween.

Claim 3 (Withdrawn): The optical scanning device according to claim 2, wherein a difference of the number of optical path inflection mirrors between two of the plurality of scanning optical systems in the sub-scanning direction at both sides of the deflector is set to zero or an even number.

Claim 4 (Currently Amended): An optical scanning device, comprising:

- a plurality of scanning optical systems configured to scan different scanning surfaces, each of the scanning optical systems comprising:
  - a light source configured to emit a light flux;
  - a deflector configured to scan the light flux emitted from the light source, wherein the deflector is commonly used in the plurality of scanning optical systems;
  - a plurality of scanning lenses configured to condense the scanned light flux to the scanning surface;
  - an optical path inflection mirror configured to inflect the scanned light flux and to decrease an amount of change in a relative scanning position of each scanning optical system caused by a temperature fluctuation in the plurality of scanning optical systems; and
  - an imaging lens including a resin lens and configured to lead the light flux emitted from the light source to the deflector,
- wherein the plurality of scanning optical systems are provided in a sub-scanning direction, wherein a difference in a number of optical path inflection mirrors between two of the plurality of scanning optical systems is set to zero or an even number, and wherein the

optical path inflection mirror is non-movable in position and configured among the plurality of scanning lenses.

Claim 5 (Withdrawn): The optical scanning device according to claim 1, wherein the scanning optical system comprises a plurality of scanning lenses and an optical path inflection mirror being configured among the plurality of scanning lenses.

Claim 6 (Canceled).

Claim 7 (Withdrawn): The optical scanning device according to claim 1, wherein the imaging lens includes a resin lens.

Claim 8 (Previously Presented): The optical scanning device according to claim 4, wherein the optical path inflection mirror comprises two or more optical path inflection mirrors configured between a first grouping of the plurality of scanning lenses and a second grouping of the plurality of scanning lenses.

Claim 9 (Withdrawn): The optical scanning device according to claim 7, further comprising:

a housing to which the light source and the imaging lens are provided.

Claim 10 (Original): The optical scanning device according to claim 8, further comprising:

a housing configured to support the light source and the imaging lens.

Claim 11 (Withdrawn): The optical scanning device according to claim 9, wherein the imaging lens is directly affixed to the housing.

Claim 12 (Original): The optical scanning device according to claim 10, wherein the imaging lens is directly affixed to the housing.

Claim 13 (Withdrawn): An image forming apparatus, comprising:  
a transfer sheet feeding device; and  
an optical scanning device including a plurality of scanning optical systems configured to scan different scanning surfaces, each of the scanning optical systems comprising:

a light source configured to emit a light flux;  
a deflector configured to scan the light flux emitted from the light source, wherein the deflector is commonly used in the plurality of scanning optical systems;  
a scanning lens configured to condense the scanned light flux to the scanning surface;  
an optical path inflection mirror configured to inflect the scanned light flux; and  
an imaging lens configured to lead the light flux emitted from the light source to the deflector,

wherein the plurality of scanning optical systems are provided at both sides of the deflector with the deflector therebetween such that one each of the scanning optical systems at both sides of the deflector comprise a set of the optical scanning system and respective light fluxes scanned by the deflector, the set of the optical scanning system being approximately parallel in a main scanning direction, and wherein an expression,

$$|N - M| = 2k + 1$$

is satisfied when the number of optical path inflection mirrors provided in each of the set of scanning optical systems is represented by “N” where  $N > 2$ , “M” where  $M > 1$ , and where “k” is an integer equal to zero or larger.

Claim 14 (Currently Amended): An image forming apparatus, comprising:

- a transfer sheet feeding device; and
- an optical scanning device including a plurality of scanning optical systems configured to scan different scanning surfaces, each of the scanning optical systems comprising:
  - a light source configured to emit a light flux;
  - a deflector configured to scan the light flux emitted from the light source, wherein the deflector is commonly used in the plurality of scanning optical systems;
  - a plurality of scanning lenses configured to condense the scanned light flux to the scanning surface;
  - an optical path inflection mirror configured to inflect the scanned light flux and to decrease an amount of change in a relative scanning position of each scanning optical system caused by a temperature fluctuation in the plurality of scanning optical systems; and
  - an imaging lens including a resin lens and configured to lead the light flux emitted from the light source to the deflector,
- wherein the plurality of scanning optical systems are provided in a sub-scanning direction, wherein a difference in a number of optical path inflection mirrors between two of the plurality of scanning optical systems is set to zero or an even number, and wherein the optical path inflection mirror is non-movable in position and configured among the plurality of scanning lenses.

Claim 15 (Withdrawn): An optical scanning device, comprising:  
a plurality of scanning optical systems configured to scan different scanning surfaces,  
each of the scanning optical systems comprising:  
a light source means for emitting a light flux;  
a deflector means for scanning the light flux emitted from the light source means,  
wherein the deflector means is commonly used in the plurality of scanning optical systems;  
a scanning lens means for condensing the scanned light flux to the scanning surface;  
an optical path inflection mirror means for inflecting the scanned light flux; and  
an imaging lens means for leading the light flux emitted from the light source means  
to the deflector means,

wherein the plurality of scanning optical systems are provided at both sides of the  
deflector means with the deflector means being therebetween such that one each of the  
scanning optical systems at both sides of the deflector means comprise a set of the optical  
scanning system and respective light fluxes scanned by the deflector means in the set of the  
optical scanning system become approximately parallel in a main scanning direction, and  
wherein an expression,

$$|N - M| = 2k + 1$$

is satisfied when the number of optical path inflection mirror means provided in each of the  
set of scanning optical systems is represented by "N" where  $N > 2$ , "M" where  $M > 1$ , and  
where "k" is an integer equal to zero or larger.

Claim 16 (Withdrawn): The optical scanning device according to claim 15, wherein  
one or more of the plurality of scanning optical systems are provided in a sub-scanning  
direction at both sides of the deflector means in addition to the scanning optical systems  
provided at both sides of the deflector means with the deflector means being therebetween.

Claim 17 (Withdrawn): The optical scanning device according to claim 16, wherein a difference of the number of optical path inflection mirror means between two of the plurality of scanning optical systems in the sub-scanning direction at both sides of the deflector means is set to zero or an even number.

Claim 18 (Currently Amended): An optical scanning device, comprising:  
a plurality of scanning optical systems configured to scan different scanning surfaces,  
each of the scanning optical systems comprising:

a light source means for emitting a light flux;

a deflector means for scanning the light flux emitted from the light source means,  
wherein the deflector means is commonly used in the plurality of scanning optical systems;

a plurality of scanning lens means for condensing the scanned light flux to the  
scanning surface;

an optical path inflection mirror means for inflecting the scanned light flux and  
decreasing an amount of change in a relative scanning position of each scanning optical  
system caused by a temperature fluctuation in the plurality of scanning optical systems; and

an imaging lens means for leading the light flux emitted from the light source means  
to the deflector means,

wherein the plurality of scanning optical systems are provided in a sub-scanning  
direction, wherein a difference in a number of optical path inflection mirror means between  
two of the plurality of scanning optical systems is set to zero or an even number, the imaging  
lens means includes a resin lens, and wherein the optical path inflection mirror means is  
non-movable in position and configured among the plurality of scanning lens means.

Claim 19 (Withdrawn): The optical scanning device according to claim 15, wherein the scanning lens means is one of a plurality of scanning lens means and an optical path inflection mirror means is provided among the plurality of scanning lens means.

Claim 20 (Canceled).

Claim 21 (Withdrawn): The optical scanning device according to claim 15, wherein the imaging lens means includes a resin lens.

Claim 22 (Previously Presented): The optical scanning device according to claim 18, wherein the optical path inflection mirror means comprises two or more optical path inflection mirrors configured between a first grouping of the plurality of scanning lens means and a second grouping of the plurality of scanning lens means.

Claim 23 (Withdrawn): The optical scanning device according to claim 21, further comprising:  
a housing means configured to support the light source means and the imaging lens means.

Claim 24 (Original): The optical scanning device according to claim 22, further comprising:  
a housing means configured to support the light source means and the imaging lens means.



Claim 25 (Withdrawn): The optical scanning device according to claim 23, wherein the imaging lens means is directly affixed to the housing means.

Claim 26 (Original): The optical scanning device according to claim 24, wherein the imaging lens means is directly affixed to the housing means.

Claim 27 (Withdrawn): An image forming apparatus, comprising:  
a transfer sheet feeding means for feeding a transfer sheet; and  
an optical scanning means including a plurality of scanning optical systems for scanning different scanning surfaces, each of the scanning optical systems comprising:  
a light source means for emitting a light flux;  
a deflector means for scanning the light flux emitted from the light source means, wherein the deflector means is commonly used in the plurality of scanning optical systems;  
a scanning lens means for condensing the scanned light flux to the scanning surface;  
an optical path inflection mirror means for inflecting the scanned light flux; and  
an imaging lens means for leading the light flux emitted from the light source means to the deflector means,

wherein the plurality of scanning optical systems are provided at both sides of the deflector means with the deflector means being therebetween such that one each of the scanning optical systems at both sides of the deflector means comprise a set of the optical scanning system and respective light fluxes scanned by the deflector means, in the set of the optical scanning system being approximately parallel in a main scanning direction, and wherein an expression,

$$|N - M| = 2k + 1$$

is satisfied when a number of optical path inflection mirror means provided in each of the set of scanning optical systems is represented by "N" where  $N > 2$ , "M" where  $M > 1$ , and where "k" is an integer equal to zero or larger.

Claim 28 (Currently Amended): An image forming apparatus, comprising:  
a transfer sheet feeding means for feeding a transfer sheet; and  
an optical scanning means including a plurality of scanning optical systems for scanning different scanning surfaces, each of the scanning optical systems comprising:  
a light source means for emitting a light flux;  
a deflector means for scanning the light flux emitted from the light source means,  
wherein the deflector means is commonly used in the plurality of scanning optical systems;  
a plurality scanning lens means for condensing the scanned light flux to the scanning surface;

an optical path inflection mirror means for inflecting the scanned light flux and decreasing an amount of change in a relative scanning position of each scanning optical system caused by a temperature fluctuation in the plurality of scanning optical systems; and  
an imaging lens means for leading the light flux emitted from the light source means to the deflector means,

wherein the plurality of scanning optical systems are provided in a sub-scanning direction, wherein a difference in a number of optical path inflection mirror means between two of the plurality of scanning optical systems is set to zero or an even number, the imaging lens means includes a resin lens, and wherein the optical path inflection mirror means is non-movable in position and configured among the plurality of scanning lens means.

Claim 29 (Withdrawn): A method for decreasing an amount of change in a relative scanning position, the method comprising:

providing a plurality of scanning optical systems configured to scan different scanning surfaces, each of the scanning optical systems comprising:

a light source to emit a light flux;

a deflector to scan the light flux emitted from the light source, wherein the deflector is commonly used in the plurality of scanning optical systems;

a scanning lens to condense the scanned light flux to the scanning surface;

an optical path inflection mirror to inflect the scanned light flux; and

an imaging lens to lead the light flux emitted from the light source to the deflector,

wherein the plurality of scanning optical systems are provided at both sides of the deflector with the deflector being therebetween such that one each of the scanning optical systems at both sides of the deflector comprise a set of the optical scanning system and respective light fluxes scanned by the deflector, the set of the optical scanning system being approximately parallel in a main scanning direction, and wherein an expression,

$$|N - M| = 2k + 1$$

is satisfied when the number of optical path inflection mirrors provided in each of the set of scanning optical systems is represented by "N" where  $N > 2$ , "M" where  $M > 1$ , and where "k" is an integer equal to zero or larger.

Claim 30 (Currently Amended): A method for decreasing an amount of change in a relative scanning position, the method comprising:

providing a plurality of scanning optical systems to scan different scanning surfaces,

each of the scanning optical systems comprising:

a light source to emit a light flux;

a deflector to scan the light flux emitted from the light source, wherein the deflector is commonly used in the plurality of scanning optical systems;

a plurality of scanning lenses configured to condense the scanned light flux to the scanning surface;

an optical path inflection mirror configured to inflect the scanned light flux and to decrease an amount of change in a relative scanning position of each scanning optical system caused by a temperature fluctuation in the plurality of scanning optical systems; and

an imaging lens including a resin lens and configured to lead the light flux emitted from the light source to the deflector,

wherein the plurality of scanning optical systems are provided in a sub-scanning direction, wherein a difference in a number of optical path inflection mirrors between two of the plurality of scanning optical systems is set to zero or an even number, and wherein the optical path inflection mirror is non-movable in position and configured among the plurality of scanning lenses.